



DEPARTMENT OF BOTANY

GDCR

COURSE OUTCOME

PROGRAM OUTCOME

PROGRAM SPECIFIC OUTCOME

2022-23

**GOVT. DIGVIJAY AUTONOMOUS P.G.
COLLEGE RAJNANDGAON (C.G.)**



FYUGP

(Four Year Undergraduate Programme)

SYLLABUS and MARKING SCHEME

FOR

B.Sc. BOTANY

SESSION - 2023-24

DEPARTMENT OF BOTANY

B. Sc. – I Semester (BOTANY)

| | |
|-------------------------------------|---------------------------------------|
| Session: 2023-24 | Program: B.Sc. |
| Semester: I | Subject: Botany |
| Course type: DSC/ Core Course 1 | Course code: |
| Title of DSC/Core Course 1 | Cell Biology and Genetics |
| Credit: 03 Theory + 01 Practical= 4 | Lecture: 45 Theory + 15 Practical= 60 |
| Maximum Marks: 100 | Minimum Passing Marks: 40 |

| Title | Cell Biology and Genetics |
|--------------------------|---|
| Course outcomes | <ul style="list-style-type: none"> ➤ This course is design to provide knowledge of Cell and cell organelles with their structure and specific functions. ➤ This course will provide sound understanding of cell cycle, cell division followed by Mendel's Law, Gene interactions, Linkage and crossing over. ➤ This course will allow the students to understand the Chromosomal aberrations, Cytoplasmic interaction, Gene Concept and Genetic code. ➤ This will prove better understanding of about the genetic material DNA and RNA, their replication and about Mutation. |
| Learning outcomes | <ul style="list-style-type: none"> ➤ Students will able to understand Cell as Basic unit. ➤ Students will able to understand structure and function of various cell organelles. ➤ Students will be able to understand cell cycle, cell division along with interaction of genes. ➤ Students will get in-depth knowledge about chromosomal aberration. ➤ Students will demonstrate proficiency in understanding the basic structure and function of DNA and RNA along with mutation. |



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B. Sc. – I Semester (BOTANY)

GENERIC ELECTIVE - I

| | |
|---|---------------------------------------|
| Session: 2023-24 | Program: B.Sc. |
| Semester: I | Subject: Botany |
| Course type: Generic Elective 1 | Course code: |
| Title of Generic Elective 1 | Cytogenetics |
| Credit: 03 Theory + 01 Practical= 4 Credits | Lecture: 45 Theory + 15 Practical= 60 |
| Maximum Marks: 100 | Minimum Passing Marks: 40 |

| Title | Cytogenetics |
|-------------------|---|
| Course outcomes | <ul style="list-style-type: none">➤ This course is design to provide knowledge of Cell and cell organelles with their structure and specific functions.➤ This course will provide sound understanding of cell cycle, cell division followed by Mendel's Law➤ This will prove better understanding of about the genetic material DNA and RNA. |
| Learning outcomes | <ul style="list-style-type: none">➤ Students will able to understand Cell as Basic unit.➤ Students will able to understand structure and function of various cell organelles.➤ Students will be able to understand cell cycle, cell division.➤ Students will demonstrate proficiency in understanding the basic structure and function of DNA and RNA. |



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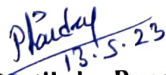
B. Sc. – II Semester (BOTANY)

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| Session: 2023-24 | Program: B.Sc. |
| Semester: II | Subject: Botany |
| Course type: DSC/ Core course II | Course code: |
| Title of DSC/Core Course II | Bacteria, Virus, Phycology and Mycology |
| Credits: 03 Theory + 01 Practical= 4 | Lecture: 45 Theory + 15 Practical= 60 |
| Maximum Marks: 100 | Minimum Passing Marks: 40 |

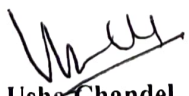
| Title | Bacteria, Virus, Phycology and Mycology |
|-------------------|---|
| Course outcomes | <ul style="list-style-type: none"> ➤ This course is design to provide knowledge of classification, structure, reproduction and economic importance of Bacteria. ➤ This course will provide sound understanding of classification, structure, reproduction and economic importance of Virus. ➤ This course will allow the students to acquire knowledge about classification, structure, reproduction and economic importance of Algae. ➤ This will prove better insight about the classification, structure, reproduction and economic importance of Fungi. |
| Learning outcomes | <ul style="list-style-type: none"> ➤ Students will gain adequate knowledge on bacterial cell, its reproduction along with economic importance ➤ Students will learn structure, multiplication and economic importance of Virus. ➤ Students will gain knowledge about classification, structure, reproduction and economic importance of Algae. ➤ Students will learn classification, structure, reproduction and economic importance of Fungi. |



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B. Sc. – II Semester (BOTANY)

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|--------------------------------------|---------------------------------------|
| Session: 2023-24 | Program: B.Sc. |
| Semester: II | Subject: Botany |
| Course type: Generic Elective II | Course code: |
| Title of Generic Elective II | Introduction to Microbes |
| Credits: 03 Theory + 01 Practical= 4 | Lecture: 45 Theory + 15 Practical= 60 |
| Maximum Marks: 100 | Minimum Passing Marks: 40 |

| Title | Introduction to Microbes |
|-------------------|---|
| Course outcomes | <ul style="list-style-type: none">➤ This course is design to provide knowledge of general structure and economic importance of Bacteria.➤ This course will provide sound understanding the general structure and economic importance of Virus.➤ This course will allow the students to acquire knowledge about general structure and economic importance of Algae.➤ This will prove better insight about the general structure and economic importance of Fungi. |
| Learning outcomes | <ul style="list-style-type: none">➤ Students will gain adequate knowledge on bacterial along with economic importance➤ Students will learn structure and economic importance of Virus.➤ Students will gain knowledge about structure, and economic importance of Algae.➤ Students will learn general structure and economic importance of Fungi. |



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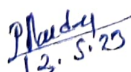
B. Sc. – III Semester (BOTANY)

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| Session: 2023-24 | Program: B.Sc. |
| Semester: III | Subject: Botany |
| Course type: DSC/ Core course III | Course code: |
| Title of DSC/Core Course III | BRYOPHYTES, PTERIDOPHYTES, GYMNOSPERMS AND FOSSIL BOTANY |
| Credits: 03 Theory + 01 Practical= 4 | Lecture: 45 Theory + 15 Practical= 60 |
| Maximum Marks: 100 | Minimum Passing Marks: 40 |

| Title | BRYOPHYTES, PTERIDOPHYTES, GYMNASPERMS AND FOSSIL BOTANY |
|--------------------------|---|
| Course outcomes | <p>After successful completion of this course, students will be able to:</p> <ul style="list-style-type: none"> ➤ To know about morphological, anatomical and developmental patterns in the bryophytes, pteridophytes and gymnosperms. ➤ To know about the reproductive parts their development and mechanism of reproduction. ➤ Learn about the life cycle pattern of bryophytes, pteridophytes and gymnosperms. ➤ Economic values of the lower plants. ➤ Know about the fossil plants and geological time scale. |
| Learning outcomes | <ul style="list-style-type: none"> ➤ The students will develop understanding about the identification and classification of lower plants. ➤ The students will gain the knowledge about the diversity and economic importance of lower plants. ➤ They will develop understanding about fossilization mechanism, fossil types and name of fossil plants. |



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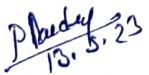
B. Sc. – III Semester (BOTANY)

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| Session: 2023-24 | Program: B.Sc. |
| Semester: III | Subject: Botany |
| Course type: DSE – I | Course code: |
| Title of DSE – I | Plant Anatomy and Embryology |
| Credits: 03 Theory + 01 Practical= 4 | Lecture: 45 Theory + 15 Practical= 60 |
| Maximum Marks: 100 | Minimum Passing Marks: 40 |


| Title | Plant Anatomy and Embryology |
|--------------------------|---|
| Course outcomes | <p>This course is design to provide following knowledge:</p> <ul style="list-style-type: none"> ➤ Know about plants tissue system, anatomical structure, and their developmental patterns. ➤ To know monocot and dicot leaf, phyllotaxy ➤ To know about how root and shoot development occurs. ➤ To know about plant reproductive parts development of including flowers parts, male, female gametophytes and fruits. ➤ Students will learn about how fertilization & pollination occurs and its different mode. |
| Learning outcomes | <ul style="list-style-type: none"> ➤ Student will develop the understanding of plant tissue system, ➤ Student will understanding the leaf anatomy, along with organization of root and shoot (RAM & SAM). ➤ They develop a strong fundamentals basics of growth, development and reproduction in plants. ➤ Understand the physiological and metabolic changes happening along with the environmental impact. ➤ Understand fertilization and pollination mechanism. |



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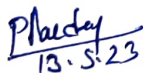
B. Sc. – III Semester (BOTANY)

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| Session: 2023-24 | Program: B.Sc. |
| Semester: III | Subject: Botany |
| Course type: Generic Elective 3 | Course code: |
| Title of Generic Elective- 3 | Economic Botany |
| Credits: 03 Theory + 01 Practical= 4 | Lecture: 45 Theory + 15 Practical= 60 |
| Maximum Marks: 100 | Minimum Passing Marks: 40 |

| Title | Economic Botany |
|--------------------------|---|
| Course outcomes | On completion of this course, the students will be able to: <ul style="list-style-type: none">➤ To know economic importance of different plants/crops.➤ Study the various types of plant used for different purposes such as beverages, medicine, timber, oil etc.➤ Know about the various parts or organs of plants/crops/vegetables used in daily life. |
| Learning outcomes | <ul style="list-style-type: none">➤ Understand core concepts of economic Botany and relate with environment, populations, communities, and ecosystems.➤ Student will develop the knowledge about economic importance of plants. |



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B. Sc. – III Semester (BOTANY)

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|----------------------|----------------------------------|
| Session: 2023-24 | Program: B.Sc. |
| Semester: III | Subject: Botany |
| Course type: SEC – I | Course code: |
| Title of SEC – I | Plant Propagation and Techniques |
| Credits: 02 Credits | Lecture: 30 Lectures |
| Maximum Marks: 50 | Minimum Passing Marks: 20 |

| Title | Plant Propagation and Techniques |
|-------------------|--|
| Course outcomes | On completion of this course, the students will be able to: <ul style="list-style-type: none">➤ Concepts, tools and techniques related to in vitro propagation of plants.➤ Learn about green house and its applications.➤ Know about the maintenance and culture of mother plants. |
| Learning outcomes | <ul style="list-style-type: none">➤ Understand basic concepts of plant tissue culture and propagation.➤ Understand the technique used in plant propagation.➤ Develop the knowledge about culture and maintenance of plant in in-vitro condition.➤ Understand the concept and principle of hardening of plant in nurseries |



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B. Sc. – III Semester (BOTANY)

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|---------------------|---------------------------|
| Session: 2023-24 | Program: B.Sc. |
| Semester: III | Subject: Botany |
| Course type: VAC- I | Course code: |
| Title of VAC – I | Medicinal Plants |
| Credits: 02 Credits | Lecture: 30 Lectures |
| Maximum Marks: 50 | Minimum Passing Marks: 20 |

| Title | Medicinal Plants |
|-------------------|--|
| Course outcomes | <p>On completion of this course, the students will be able to:</p> <ul style="list-style-type: none">➤ To know about the medicinal properties of plants.➤ Gain knowledge about parts/organs of plants used as medicine.➤ Know about name and general description of important medicinal plants. |
| Learning outcomes | <p>The students will be learning:</p> <ul style="list-style-type: none">➤ They will be understand the medicinal properties and functions of various parts/organs of plants.➤ Student will learn about chemical nature and biological activity of the present molecules.➤ Understand the economic value of plants and its organs. |



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